PRECOCIOUS GUMMATA.

BY

R. W. TAYLOR, M. D.,
Surgeon to Charity Hospital, New York.

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PRECOCIOUS GUMMATA.[1]

By R. W. Taylor, M.D.,
SURGEON TO CHARITY HOSPITAL, NEW YORK.

The close and widespread study of syphilis within the past fifteen years has conclusively shown that the old and dogmatic division of the disease into three sharply marked periods must soon be very much modified, or perhaps even discarded, and that, although the terms primary, secondary, and tertiary, as applied to stages of syphilis, present the advantage of clearness and simplicity in study and description, and may even be clinically true as regards a large number of cases, yet there are very many in which such a division is inappropriate, since we observe in some the so-called tertiary lesions in the secondary period; in others seemingly secondary lesions in the tertiary period, and perhaps coexisting with well-marked lesions of that period; or, again, cases of tertiary lesions concomitant with secondary lesions. To hold, then, that superficial lesions belong to and are only found in the early or secondary period, and that they are followed later on by lesions involving the tissues more profoundly, is in reality to sacrifice facts for simplicity of description. Indeed, one of the as yet unsettled problems of great importance in syphilology is that relating to its periods, classification, and chronology.

One of the main facts which militate against the old division is that which has been so prominently brought forward of late years, namely, that there are many lesions and affections which were formerly looked upon as belonging to the tertiary period, which are very frequently observed to assume a precocious development, appearing more or less early in the secondary period. Thus we not infrequently see within the first year of syphilis destructive ulcerations of various size and depth which we call malignant, precocious syphilides. Not infrequently do we meet with cases of osseous and articular lesions which, under the old division, we can only term precocious since they appear in the so-called secondary stage. Marked instances of early gummatous development are seen plainly in the gumma of the iris, and again severe infiltrations of the pharynx and larynx are not infrequently observed early in the first year of the disease. Then, again, observations made within the last decade have shown that affections of the nervous system, which at one time was thought to be spared by the syphilitic virus, and in later times

[1] Read before the American Dermatological Association August 25, 1886.

attacked only in its tertiary stage, may develop within the first six months of syphilitic infection. In considering this subject of the relationship of secondary to tertiary lesions, that eminent surgeon, Mr. Jonathan Hutchinson,[1] says:

"What has been named a 'gumma' has been supposed to be characteristic of the tertiary stage. Opinions have, however, been changing respecting several, if not all, of these points. Cases have been recognized in which the various conditions referred to were met with so early in the disease, and in such close combinations with each other, that the only explanation seemed to be that the disease had run an unusually rapid course, and had reached its last stage before it had well finished its first. By degrees we are, however, arriving at another interpretation of such facts, and are beginning to see that the old classifications of the phenomena cannot hold their ground, and that we must seek for other characters by which to distinguish the secondary and tertiary stages. Not, indeed, that the old observations are wholly wrong; this would be exceedingly improbable, and its mere assertion would very properly lead to much distrust of any modern conclusion which might seek to supplant them. Speaking loosely, and in a general way, it is still true that visceral affections, gummata, deep ulceration and periostitis belong to the tertiary stage. It is only when these facts are brought forward as if they were constant and sufficient in themselves to form the basis of classification, that we are compelled to make protest."

He then continues:

"Permit me to illustrate what I mean by the citation of a case. A young man, aged twenty-one, too young, let me note, for it to be likely that he ever had syphilis before, was admitted into the London Hospital under my colleague, Dr. Langdon Down. He had still the remains of a hard chancre on him, and he was covered by a papular rash, which was ulcerating in places. The date which he assigned to the beginning of the affection was only four months previously. He died suddenly and unexpectedly. The necropsy showed gummata in both testicles, in the spleen, and in the heart, death having been caused by the softening and ulceration of the latter."

Though Mr. Hutchinson thus shows the shortcomings of the old classification of syphilis, he does not attempt to establish a new one. In this he is, in my judgment, wise, seeing that in our knowledge of the natural history of syphilis there are yet many lacunæ, notably in that of early visceral lesions. In Germany, also, the insufficiencies of the old classification have been treated of in an excellent article by Finger,[2] who, however, has no new one to offer.

Though to-day there are comprehensive descriptions of precocious nervous, osseous, articular, ocular, and superficial ulcerative dermal affections due to syphilis, a systematic description of the clinical history of precocious gummata is wanting.

It must, in justice, here be stated that our knowledge of many of the precocious affections of syphilis is in a large measure due to the writings of that eminent syphilographer, C. Mauriac. His paper, entitled "Cas de syphilis gommeuse précoce et refractaire à iodure de potassium,"

[1] Lettsomian Lectures on Some Moot Points in the Natural History of Syphilis. British Medical Journal, January 23, 1886.

[2] Ueber die Koexistenz der sogenanten secundären und tertiären Syphilisformen. Wien. med. Wochenschrift, Nos 1 and 3, 1882.

Paris, 1874, is, according to my reading, the first contribution to the subject of precocious gummata, and this, with his latter paper, "Memoire sur les affections précoce du tissue cellulaire subcutanée,"[1] constitutes up to this time the literature of this form of eruption.

In the present essay the divisions and clinical descriptions are based wholly on my own observation and study during a period of many years, aided at times by the facts observed by Mauriac. In many points my experience accords with that of this painstaking observer, while in others it is more or less at variance.

I propose to present the clinical histories of a selected number of my cases, from which I think I can trace a clear and satisfactory description of these not common nor yet infrequent eruptions.

My studies have convinced me that there are three forms of the precocious gummata: The first, the generalized form; the second, the localized form; and the third, the neurotic form, which in some of its features resembles erythema nodosum. Of each of these three forms, moreover, there are two varieties: a resolutive, or non-ulcerative, and an ulcerative variety.

I. The Generalized Form of Precocious Gummata.

A clear idea of this form of syphilide is presented by the following case:

Case I.—A merchant, aged thirty-six, came under my observation in May, 1885. He was a tall, thin man, of exceedingly nervous temperament, never very strong, who continually overtaxed himself mentally and physically, and subordinated to business every pleasure and relaxation. Excepting several attacks of gonorrhœa, and more or less prolonged periods of extreme debility, he had had no real sickness in his life. He came of excellent stock. In January, 1885, he had a large indurated chancre, with marked inguinal adenopathy, which was followed late in February by a roseola and papular syphilide, fall of hair, rheumatoid pains, emaciation, and asthenia. For these he had been treated by an out-of-town physician in a proper manner.

Late in May, three months after the evolution of the secondary period of syphilis, he came to me, at the advice of his physician, presenting the following symptoms. On the scalp a tendency to loss of hair, mucous patches in pharynx, and over the body a declining papular syphilide, interspersed with slight maculations of what had been a deep-tinted roseola. Amid these retrogressing lesions was the eruption which is of interest in this paper. Over the nucha and the shoulders, on the outer aspect of the arms, particularly over the elbow, over the gluteal region, quite copiously on the outer and anterior part of the thighs and legs, and sparsely on the inner aspect of these members was scattered an eruption of tubercles, varying in size from a lima bean to a walnut, which numbered by actual count more than forty. These tumors were seated firmly in the skin, involving its whole thickness, besides some of its

[1] Annales de Dermatologie et de Syph ligraphie, 1880 and 1881, and Leçons sur les Maladies Vénériennes, Paris, 1883.

underlying connective tissue, were easily movable, and sharply circumscribed. They were of a dull red color, some of them level with the plane of the skin, while others, and particularly the larger ones, were in a moderate degree salient. They were in general covered with normal epithelium.

Amid these well-developed tumors were fully fifteen very minute ones, of which several could not be seen by the naked eye, but on searching for them presented to the tip of the finger a feeling of movable, circumscribed infiltration in the deeper portion of the derma. Others of these incipient tubercles, being like those just described, of the size of a pea, showed, upon examination, that they were infiltrations which had begun coincidently in the skin and connective tissue, while it was evident that in the former the morbid process began in the superficial layers of the connective tissue, and that they gradually contracted adhesions with and invaded the whole derma. The only further point of interest of this case in this connection, is that a few of the larger and older tubercles underwent slight and superficial ulceration, while the majority were cured by local and constitutional treatment within a month.

The period of time occupied by the evolution of the eruption up to the date of my first examination was, as nearly as could be determined, two weeks. During the whole course of the eruption the subjective symptoms had been very slight and were limited to a feeling of slight uneasiness and impediment to locomotion.

I may here add that the question in the mind of the attending physician, who was a very intelligent man, I only seeing the case at varying intervals in consultation, was, whether the eruption I have just described was really of syphilitic origin, or whether it was a coincident furunculosis of low grade and of aborted form. He very pertinently remarked that it seemed strange that such superficial lesions as roseola, papules, etc., should be followed so quickly by lesions so deep-seated as were these gummatous infiltrations.

The foregoing case may be taken as typical of the first, earliest, and most common form of the precocious gummata. It will be noted that while in its general and symmetrical distribution the eruption presented the features of the early and, we may perhaps say, exanthematic syphilides in the intensity and profundity of the morbid process, it partakes of the character of the late or tertiary lesions. In my experience this particular form of eruption, while not rare, is not very common. I usually see four or five of such cases every year in hospital and two or three in private practice.

These cases present considerable uniformity, and although to the experienced physician they usually offer no difficulty of diagnosis, I have often seen them prove stumbling blocks to the younger men and sometimes even to older ones.

This eruption may appear as early as the second month, and in the third, fourth, and sixth. I have observed that the earlier the date of

the appearance in general the more extensive is the eruption and the more numerous the gummatous tumors, and that while it is the rule to see many of them, thirty, forty, or even sixty or seventy, cases will be observed when as small a number as fifteen or twenty tumors are present. Not infrequently do we see the evolution of the eruption following or even coincidently with the existence of a general roseolous, a papular, or even pustular syphilide. It is not uncommon to find coincident gummy infiltration into the pharyngeal walls or into the mucous membrane of the roof of the mouth, or even less intense lesions of these parts. Serous and gummous iritis, neuralgic phenomena, even such grave affections as hemiplegia, paraplegia, and minor palsies may also be observed to be coincident with or follow closely upon the evolution of this eruption. Many observations which I have made have convinced me that in most cases there is an accompanying well-marked febrile movement just preceding and during the outbreak. In some of the milder cases the temperature may be elevated from one to two degrees, while in others, particularly in those of extensive eruption, the thermometer registers in the evening 102° or 103° F., with a decline of two or more degrees in the morning. Then, again, the fever may be slight and continuous, while in cases attended with much cachexia, a continuous high fever is occasionally observed.

This form of gummatous eruption attacks both males and females in about equal numbers; my own observations tend to convince me that some condition of lowered vitality or impaired nutrition is at the root of it and of other forms of early gummata. Thus I have met with it in persons of naturally poor fibre, in those of studious and sedentary habits, in persons exhausted by the cares and confinements of business, and last, but foremost, in those who are habituated to the excessive use of alcoholics. If the question was put to me, "In whom do you most frequently observe severe and precocious syphilides?" I should answer promptly, first, in those whose nutrition is impaired by alcohol; second, in those who suffer from renal and hepatic diseases; and, third, in those having these visceral lesions and, besides, who have been addicted to alcoholics. I am not as much impressed as some observers are as to the malignancy of syphilis in strumous subjects. Very many such patients become sorely afflicted by syphilis, yet in many that disease runs its course unattended by severe precocious lesions or even with late lesions of much severity. I have reached the conclusion from extended observation that in the so-called scrofulous person, provided his or her habits of life are good, there is not an unvarying tendency to malignant precocious syphilis. It is true, I have seen early and malignant forms of syphilis in strumous persons, but not in such numbers as to warrant me in placing struma in the front rank of its causes.

This form of eruption is found in both old and young, though my sta-

tistics show that the greater number of my patients were between twenty and thirty-five and after fifty years. My opinion is in accord with most syphilographers that syphilis in persons beyond fifty years of age is frequently severe; that its lesions are often precocious, grave, and extensive; and that the diathesis has a tendency to modify, to engraft itself upon and often to intensify previous morbid processes or affections, local or general. I have repeatedly seen instances of this malignant action, and I have very frequently seen the form of precocious syphilide now under consideration in old subjects.

Malaria very frequently acts as a formidable complication of syphilis, and some of the most rebellious cases that I have treated were in persons whose systems, prior to syphilitic infection, had been debilitated by its virus. In such cases I think that we more frequently see precocious cerebral and nervous symptoms, and not infrequently early hepatic disturbances, of greater or less severity. In these cases of mixed diatheses, however, the syphilides often run an active and severe course, and precocious gummata not infrequently attack them.

The clinical history of this form of precocious syphilide then is as follows: As early as the eighth week of infection, rarely earlier, the patient notices either small circumscribed swellings under the skin, generally unattended with pain and only perceptible to the touch, or this stage of the eruption may escape him and his attention is at first arrested by a number of bright red spots. Quite frequently the patient comes with the statement that blind boils are breaking out all over him. Examined early in their history these gummata are found to be round tumors of the size of a bean, deeply set in the skin, having a bright red color which, at the first, is dissipated by pressure, but becoming deeper, more sombre and permanent in color later on. They increase peripherally quite rapidly, so that within a week or ten days they may attain an area of an inch, or an inch and a half. Then again their growth may be slower. In general a goodly number of tumors appear scattered symmetrically over the whole body. As they grow they are followed by new ones which come along with greater or less rapidity, in proportion as internal medication is pushed. If a correct diagnosis is at once made and appropriate treatment instituted, the first crop may be the only one and that may be promptly dissipated. Unaffected by medicine, their evolution continues and in a fortnight the arms, forearms, perhaps the scapular region, not infrequently, but not as a rule, the back and anterior surface of the trunk, the gluteal regions, thighs, and legs are invaded by these tumors.

The course of these gummata is, in general, quite regular and not subject to great variation. When developed they present a quite firm sensation and this may be termed the period of condensation. As they grow older the red color becomes rather coppery, and while the periphery

of the tumor may or may not seem firm, the central portions appear softer to the touch, conveying the impression that the tissues are permeated with a thick fluid. This we may denominate the stage of softening, and is found to be of varying degrees in different cases. In some instances there is simply a soft and yielding sensation conveyed to the finger tip, while in others a feeling of slight fluctuation is noticed. To the inexperienced in the latter case these tumors may give the impression of being abscesses and suggest the use of the knife. But such a procedure should not be resorted to, since resolution may take place under the influence of treatment, even when the condition of softening is well marked. In the majority of the cases there is not abscess formation, but rather a liquefaction of the gummy infiltration, which is in general promptly absorbed. In the non-ulcerating or resolutive variety of precocious gummata, which we are now considering, the further progress of the tumors is as follows: They gradually become flatter, the borders melt away slowly, and the color *pari passu* fades until the normal hue or a coppery pigmentation of the skin is reached, which occurs soonest on the trunk and upper extremities and latest on the legs. On the latter situation the stage of softening may continue until the stage of ulceration sets in. Here, also, these tumors frequently take on inflammatory action when complicated with varicose veins, with œdema and chronic eczema and erysipelas. The time occupied in the full development of these tumors is usually from ten days to two weeks, and after that their period of duration is variable. They may, under treatment and care, promptly retrogress, and again may remain in an indolent condition in the second stage indefinitely. The traces left by them are generally very slight and not permanent, being simply slight hyperæmia and scaling and coppery pigmentation. Then again, in long-standing resolutive cases, after absorption has taken place distinct loss of tissue may be noticed in a depressed cicatrix, which, however, is not as profound as those left by the gummata of later periods. Not uncommonly, new and sparse crops of tumors appear while the general eruption is in process of absorption.

Having thus quite fully described the non-ulcerative or resolutive form of this very precocious gummatous eruption, a few words will suffice to bring out the features of the ulcerative variety. While in the first variety there is usually little or no tendency in the tumors to necrobiotic action, in the second variety this condition is seen quite early. The stage of condensation is very short, and softening in a marked degree is observed in a few days. The centre of the tumors assumes a dark red color in one or in several spots, and a sensation of fluid under the epidermis is distinctly made out. Then slight ulceration may occur in spots, often at the openings of the hair and sebaceous follicles, and very soon the epidermal roof of the tumor melts away, and we soon see

the gummatous ulcer with its slightly thickened, reddened, undermined, and perhaps everted edges, and its floor of a greenish-red, bathed in an unhealthy sanious pus. As a rule, however, these ulcers are more superficial than the later ones. Their floor is less deep, the edges less undermined and everted, and the whole appearance indicates that the destruction is less profound. I have seen instances of this variety in which as many as forty tumors underwent degeneration.

Having reached the stage of ulceration, the further course is indefinite, and it depends entirely upon the treatment, external and internal, which is adopted. The concomitant symptoms of this variety of the gummous syphilide are in general like those of the resolutive variety, only that they are usually more intense and accentuated. The fever is higher, the malaise more pronounced, and the general condition of the patient rather worse.

Usually there is no difficulty of diagnosis of this variety of precocious gummata. The infection is so recent that a history of syphilis is easily obtained and then all doubt as to the nature of the tumors is removed. I have seen them, however, mistaken for aborted furuncles and regarded as rheumatic tumors, as scrofulous swellings, and in a case in which the initial lesion was seated on the index finger and was accompanied by severe constitutional symptoms and an active angio-leucitis of the arm, they were thought to be the result of purulent infection.

II. The Localized Form.

The second variety of precocious gummata usually appears somewhat later than the one just described. In exceptional cases I have seen the eruption as early as the third month of syphilis, though my notes show that in the greater number of cases the date of appearance was the fifth, sixth, or eighth month of infection and even as late as one year. Like the first variety, the evolution of these tumors is aphlegmasic, rather more insidious and indolent than that of the first variety, and, in short, partaking of their characteristics to a certain extent and, also, of those of the gummata of the tertiary period.

In the second variety, also, we find some cases in which resolution takes place, while in others the stage of softening goes on to ulceration. While in the first variety the tumors are smaller, more numerous, and more copiously and symmetrically distributed, in the second they are, as a rule, larger, less numerous, and, though generally symmetrically placed, occasionally they are unsymmetrical, existing upon one region and absent on its fellow of the opposite side.

As a rule, they are met with in the same class of persons as the first variety is, namely, in the aged, and those given to excess in alcoholics, in persons of strumous tendency, in subjects debilitated by any exhausting cause or adynamic influence, such, for instance, as visceral disease,

fevers, pneumonia, diphtheria, etc., and in those reduced by chronic malaria. Then, again, I have seen this eruption in patients who could not be classed in any of these categories, who had never had any sickness—yet, as they remarked, had never been strong; in short, persons of poor fibre. While there may be a slight prodromal or accompanying fever, it is usually absent, and the patients may not complain of any unusual intensification of their morbid condition.

The following case will answer well as a prototype of this second form of precocious syphilide in its full development; while very brief notes of other cases will be of service in showing its more restricted and less symmetrical distribution.

Case II.—A female, aged twenty-four, a blonde, fat and flabby, came under my observation at Charity Hospital in October, 1883. She had been in the hospital at different times for gonorrhœa and chancroids, was a woman of the town, and addicted to drink and dissipation. In April, 1883, she had an insignificant ulcer at the fourchette, which was followed by inguinal adenopathy, fall of hair, a severe attack of mucous patches of mouth, throat, and larynx, and a disseminated and very copious papulo-pustular syphilide. She was treated at a dispensary, but was negligent in following advice, and generally careless of her health. In September, five months after infection, she presented evidence over the whole body of a small miliary papular syphilide.

She entered the hospital on account of a number of tumors on her legs which began to appear about a week before. At the examination I found, on the outer aspect of the forearms, over both gluteal regions, and on the lower half of the leg, a number of tumors. These were oval in shape, following the longitudinal axis of the limbs, but obliquely transverse at the gluteal regions, slightly elevated, and were felt to involve the whole thickness of the skin, and part of its subcutaneous tissue. Their color was a pronounced red, tending toward brown; they were covered with a tolerably perfect epidermis, and surrounded on the legs by a bright red areola. Elsewhere the deep red color of the tumors stopped sharply at their borders. The largest of them, which were on the outer side of the legs, were about two and a half inches in length, by one and a half in breadth, while the others varied in size until the smallest were reached, which were less than an inch long. In all there were about fourteen. The woman's stomach was so much deranged, and her health so debilitated, that mercury in any form, or by any method of administration, was temporarily out of the question. The treatment was, therefore, directed to improvement of the appetite, and invigoration of the system.

While under this course, several subcutaneous tumors developed quite quickly, say within ten days, on the outer aspects of both the forearms and the legs. They could be distinctly felt at first as localized, sharply limited infiltrations, without any subjective symptoms whatever. In this condition they were followed carefully from day to day, when in two weeks they had attained an area of an inch and a half by one inch, having in the meantime fused themselves with the skin lying above them, and come to present features essentially like those of their predecessors. The patient presented very slight febrile symptoms, complained

of no pain, but simply a tense feeling in the arms and legs. Later on, under a mixed treatment, these tumors slowly disappeared, having in the meantime been increased by the addition of four more. In their fully developed state—that is, when about two weeks old—they were hard and firm, but later on, they became softer, especially in their central portion, producing a very slight sensation of fluctuation, or, perhaps, I might say, bogginess of the tissues. They never advanced toward ulceration further than this. The redness grew more brownish, and then gradually faded, until at last, in the more dependent ones, slight pigmentation remained, while, in the remaining, total resolution occurred without leaving any trace. The patient was under observation for ten weeks.

In contrast with this case of general and symmetrical distribution, the following are of interest:

Case III.—A female, aged twenty-nine, in the seventh month of syphilis, had several such tumors on the right leg, two on the left arm, and two on the scalp, over the right temporo-parietal region.

Case IV.—A man, aged twenty, six months after infection had several tumors on the legs, one on the right side of the forehead, and one on the chin.

Case V.—A female, aged forty-five, in the tenth month of syphilis, had several tumors on the outer side of both forearms, and one on the left parotid region and infiltration into the soft palate.

The clinical history of this variety of gummatous syphilis is so similar to that of the first that extended description is unnecessary. The appearance of the tumors is the same, except that they are usually larger, perhaps not as much elevated as those of the first form. There is the same stage of condensation, which is slightly longer, then follows that of softening, which is even more aphlegmasic than in the first form. On the legs such complications as chronic eczema, phthiriasis, œdema, varicose veins, and erysipelas, often much modify and intensify the course of these tumors. If resolution takes place, the same process and features are observed as I have already described. If ulceration occurs we find the same softening in one or more central spots, which become of a deep red or black color, then the gradual melting away of the skin until the well-marked gummatous ulcer is left. As in the first variety all the tumors may undergo this necrobiotic action, so in this form one or more may thus succumb, and generally those on the legs. The resulting ulcers are usually large and deep, and correspondingly slower in healing. On the legs this eruption is frequently accompanied by a sensation of uneasiness and heat, and locomotion is more difficult. Elsewhere little, if any, discomfort is experienced, except on the forearms, where a feeling of tension is often complained of.

In general, the diagnosis of this form of syphilide is easy, particularly when the tumors are numerous, and symmetrically distributed. In the cases in which the tumors are sparse and localized, errors in diagnosis

are not infrequently made. It is important to bear in mind that the regions of the head and face are particularly susceptible to this form of precocious syphilide. When thus seated in these regions it is quite frequently found that there is also infiltration into the pharyngeal walls, and perhaps into the mucous membrane of the mouth.

I would not be understood as limiting the date of evolution of this syphilide to the first year of syphilis, since it unquestionably appears later. As the diathesis grows old, however, the eruption generally is less copious, less symmetrical, and is more insidious, aphlegmasic, and limited in extent, becoming more and more like the tertiary form.

III. The Neurotic Form, Presenting Points of Resemblance to Erythema Nodosum.

Case VI.—A female, thirty-seven years old, married, mother of three children, having suffered from eczema and severe attacks of supra-orbital neuralgia, accompanied by gastric disorder for years, was infected with syphilis by her husband in the winter of 1881. She was a thick-set, fat, and phlegmatic lady, and had never been robust and strong. The secondary manifestations were quite severe, a roseola being soon followed by a copious papular syphilide, distressing angina, and rheumatoid pains. She lived in a neighboring city and was carefully treated with mercurials by her family physician.

In the month of February, 1882, she was brought to me and presented the following symptoms: She had complained of excruciating nocturnal cephalalgia for about ten days. The cervical, epitrochlear, and inguinal ganglia were much enlarged and over the arms and trunk was a declining papular syphilide. The chief object of her visit was to determine the nature of a number of swellings on various portions of the body. On the outer aspect of the shoulders were several oval tumors of a bright rosy red, slightly elevated and convex, having a firm consistence and sharply marginated. Their length was three-quarters of an inch, their diameter half an inch. On the infra-clavicular regions were two tumors, symmetrically placed, slightly larger than the others, and on each forearm were two similar tumors. On each of the legs, on the antero-external surface, were several more of larger size, distinctly elevated, flat, and surrounded by an œdematous margin. Their surfaces were firm and the epidermis quite tense. The color was of a sombre red. The story told by the patient was, that ten days previously, when suffering from severe headache, which was worse at night, she noticed a sense of heat and a soreness as if from a blow or a bruise in the forearms, shoulders, and more severely in the legs. On rubbing these regions she felt lumps under the skin, which, in two or three days, developed into the red tumors just described. While these tumors were forming she was further affected with lancinating pains of intermittent character in the outer aspect of both thighs, beginning at the anterior superior spine of the ilia and running down to the knee. Examination at the time showed that under the skin, on the antero-external surface of both thighs, were two irregular oval plaques of induration fully two inches long. Above them the skin was freely movable and by their inferior surface they were free. No redness of the skin was seen at this time.

I had the opportunity of examining the progress of this case very carefully for a month after the February consultation. The patient was weak, debilitated, and rendered almost hysterically nervous from the suffering during the day by the flushing and lancinating pains and from these combined with headache at night. The tumors were exquisitely painful and the slightest touch was dreaded. It was only after the fourth day, during which time the patient had taken bromide of potassium and codeia, that I could make a thorough examination of the tumors, and I found from the surface thermometer a temperature of $98\frac{3}{4}^{\circ}$ F. on the tumors. During this period of illness she had lost much flesh. As soon as the pain had been relieved, the codeia was stopped and the bromide, combined with the iodide of potassium, was given in doses, beginning with thirty grains of the bromide and ten of the iodide, three times daily. Besides this, forty grains of mercurial ointment were rubbed into the groins, armpits, and legs near the tumors daily for about ten days. The iodide was pushed to forty grains, thrice daily.

The further history of the tumors is interesting and peculiar. The rosy red deepened into a sombre red, and then in the centre of each, which was slightly convex, the redness gradually paled until a color similar to white wax was left. The tumors then presented a very striking appearance: about one-third of their whole extent and sharply limited to their centres, they were of this waxy color, which was surrounded by an areola of various shades, constituting a peculiar play of colors, such as is often seen in erythema nodosum, and which is admirably shown in plate No. 3 of the late Tilbury Fox's *Atlas of Skin Diseases*. The differences, though, if carefully studied, were well marked. There was a more aphlegmasic, indolent, and subacute appearance to the eruption of the patient. The various shades of circumferential redness were more sombre, the tumors which then could be examined were more sharply circumscribed, and there was decidedly less surface heat than in simple erythema nodosum. Yet I can readily see how an error could have been made.

In proportion as the bromide and iodide were pushed and the mercurial inunctions continued, the nutrition of the patient improved, the appetite returned, the headache ceased, and the neuralgic pains grew less, so that on the twentieth day after the institution of the treatment the condition of the patient was very favorable. The tumors slowly underwent absorption. The waxy colored centre increased peripherally as the variegated and sombre red areola grew less, until in a month the site of the tumors showed only traces of slight hyperæmia. But for fully three weeks after the disappearance of the surface changes distinct nodules, non-adherent to the skin above and the fasciæ beneath, could be distinctly felt. The subcutaneous tumors on the thighs were aborted by the treatment. At first the pain grew less and soon their size diminished, until in about a month they could be no longer felt.

The date of invasion of this eruption was four months after infection.

In the spring and summer of the year 1879, while attending physician to the class of skin diseases at Bellevue Hospital, I had under my care a woman whose case was to me and to my colleague, the late Professor Bumstead, unusual and remarkable.

Case VII.—The patient was a married woman, twenty-five years of age, of dark complexion, very thin and sallow, who had long lived in the South and suffered from malaria, chiefly in the form of remittent fever and neuralgic pains in the head. She had been infected with syphilis in April and had active and extensive papulo-pustular eruption, double iritis, and nodes on the cranium and on both ulnæ, near the elbow-joint. For these she was treated and was in August free from lesions, when she began to complain of an atrocious nocturnal cephalalgia. This was followed by pain in the larger joints and a marked hyperæsthesia in both legs. Coincidently there were malaise, loss of appetite, insomnia, and, as she tersely described it, a generally wretched condition. After three days of this suffering she observed some red patches or swellings on the legs, chiefly on the middle and upper thirds. I saw her two days after the invasion of this eruption and found her scarcely able to walk. Both legs were swollen, red, and œdematous. On each were fully six large plaques of infiltrated skin. The color was of a deep red, the epidermis tense and shining, and slightly elevated above the intervening skin, which was also œdematous and less red than the tumors. There were two large oval tumors on the outer surface of the thighs. These lesions were hard and firm to the touch and so exquisitely sensitive that it was with much difficulty that an examination could be made. The infiltrations increased in extent, became more salient, while the deep red color became of a bluish-black, exactly like a severe contusion. The intensity of the discoloration was greatest in the centre and shading off slightly toward the periphery. About fourteen days elapsed between the onset of the skin lesions and their full development. At that time the severe neuralgic and rheumatoid symptoms were much relieved and the general condition of the patient better. I was at that time disposed to attribute the relief of the neurotic condition to the large doses of bromide which were given, but subsequent observation has shown me that in some cases in proportion as the eruption matures the suffering grows less. Mauriac has also observed this fact. A point of interest in this case was that several of the tumors so increased in size that they fused together and resulted in patches of infiltration nearly six inches in diameter. Under the mixed treatment and soothing applications resolution took place slowly, except in two of the tumors seated on the lower third of each leg, which softened in the centre, ulcerated, and presented the characteristics of ulcerating gummata.

The period of evolution of this eruption was about fourteen days, the subsequent stationary period was a month for the resolutive tumors and about two months for the ulcerative ones. The date of evolution of the eruption was four and a half months. Very little scarring was observable on the sites of the ulcers.

Case VIII. was that of a gentleman thirty-two years old, who was under my care in the summer of 1885. He contracted syphilis while abroad and had a small ephemeral initial lesion, followed by very mild secondary manifestations. In the fifth month of his syphilis he became much worried by business reverses and was forced to undergo severe physical and mental strain. In this condition, being a thin, not very strong person, he began to suffer from nocturnal cephalalgia, intermittent neuralgia of several of the left intercostal and of both anterior crural nerves. About a week after the onset of this neuralgic condition he noticed on each leg a number of bright red swellings. These increased

in size and followed precisely the same course as was observed in the first cases. I found the same hyperæsthetic tumors, with a waxy looking centre and the variegated areola. Rather less than fourteen days elapsed from the time of invasion to the full development of the eruption. He was cured by local inunctions and iodide of potassium internally.

Case IX. was that of a woman forty-eight years of age, who was of robust build, but had suffered at intervals during the last ten years with rheumatism. She was much given to alcoholic excess. Ten weeks after infection, which was in December, 1882, coincidently with a copious roseola, she was attacked by an eruption of round and oval tumors on the forearms, legs, and hypogastrium. The deep red color became deeper until a hemorrhagic appearance was presented. Then paling begun in the centre, being first of a bluish-green, then dark green, then of a brownish-yellow, until entire resolution was effected in two months.

Case X. was also that of a woman fifty-three years of age, seen by me in the fall of 1884. She had borne twelve children in fifteen years and thought that the ill health from which she had suffered since she was forty years of age was the result of these frequent pregnancies. She suffered also from subacute bronchitis which had followed pneumonia. Three months after infection she had a copious eruption of the tumors such as I have already described, which were the seat of neuralgia and surrounded by hyperæsthetic skin. Resolution did not take place, the tumors softened and broke down into typical gummatous ulcers, which were healed in three months, during which time a small crop of new tumors developed. Very superficial scars were left.

These five cases, I think, may be taken as typical illustrations of the third form of precocious gummata. The date of evolution of the eruption was respectively four, four and a half, two and a half, and three months after infection, while in Mauriac's cases the eruption began at two months in three cases, four and a half in one, and at nine months in the fifth. In my cases it occurred in women four times and in men once, while in Mauriac's cases three times in men and twice in women. In my cases the ages of the patients were thirty-seven, twenty-five, thirty-two, forty-eight, and fifty-three, while those of Mauriac were thirty-eight, forty-seven, twenty-three, and thirty-four. So that in no case has it thus far been found earlier than the twenty-third year, nor later than the fifty-third.

The clinical history of this form of syphilide has an individuality of its own. In the very early months of the diathesis, either in the stationary period of an early syphilide or at its decline, generally preceded or accompanied by severe neuralgic symptoms involving the facial or cranial, intercostal, anterior crural or, in fact, in any cutaneous nerve, by severe cephalalgia, continuous or nocturnal; by rheumatoid pains in muscles or joints, and by general malaise and debility, this eruption makes its appearance with more or less promptitude and develops quite rapidly. In some instances the invasion is very acute, so that at the end of a week

we may find fully developed tumors an inch or two long, in others and in the majority of instances the development is slower and nearly two weeks elapse. Besides the general neuralgic symptoms, local pains on the site of the lesions or in the whole territory on which they are developed are experienced. These may be continuous or intermittent and in some cases are as excruciating as in severe herpes zoster. They are described as flashing, burning, lancinating, and are sometimes said to resemble those of an abscess. In some instances the sufferings are less after the evolution of the syphilide, but in the majority of the cases the tumors throughout their course are the seat of exceeding hyperæsthesia and patients shrink with terror from their palpation. Besides these phenomena we generally find a moderate febrile movement, an evening temperature of 100° or 101° F., and in the very severe cases as high as 104°; emaciation, want of appetite, and all their concomitant symptoms. The seats of predilection are the forearms and legs, but the tumors are also found on the shoulders, arms, thighs, chest, and trunk. As a result of the pain, swelling, and tension, there are more or less discomfort, stiffness, impairment of motion, even to the extent of a pseudo-paralysis in the arms and legs.

The eruption consists of two orders of lesions: first, tumors or nodosities seated in the subcutaneous tissue and freely movable under the skin and over the fasciæ, though as they increase they may contract adhesions on both surfaces; second, oval or round tumors, or irregular plaques from fusion of tumors. In my experience the subcutaneous nodosities occur much less frequently than the tumors, while Mauriac seems to regard them as almost constant accompaniments to the eruption. The tumors begin by infiltration in the deeper portions of the skin and its contiguous connective tissue. When first seen they are of a bright red, rather sharply circumscribed, and painful. They quite rapidly increase in size into round or oval swellings, slightly raised and convex. In some cases the bright red rapidly becomes darkened until a blackish-red or decidedly ecchymotic appearance is seen, while in others it is of a very deep red, similar to what we see in erythema nodosum. In some cases again the red centre pales and becomes the color of white wax or of a billiard ball, while the deep red border remains in various stages of intensity, consisting of a commingling or play of colors such as we see following a bruise or erythema nodosum. In most of the cases resolution takes place, and there are but two stages: the first, that of condensation; the second, that in which softening takes place, which may, but does not invariably end in resolution. Mauriac is very positive in his assertion that resolution always takes place. In two of my cases ulceration followed softening, and in a case of Dr. Bronson's I observed this same result.

In my Case VII., observed in 1879, ulceration took place and its

occurrence convinced my late colleague, Dr. Bumstead, who watched the case with me, that the eruption which had so puzzled us, in which we leaned to the opinion at first that it was a case of intercurrent erythema nodosum, was really a precocious and then anomalous form of gummata. The ulcerations which follow the breaking down of these tumors present all of the characters of the late gummata, only in a more superficial degree. Their edges are usually not quite as thick nor are their floors as deep, but otherwise the appearances are the same and their subsequent course is usually aphlegmasic and chronic. In exceptional cases general inflammation and swelling attacks a limb or limbs the seat of these tumors, and the suffering is thereby intensified. The tumors are usually symmetrically distributed and remain isolated with little tendency to coalescence. In some cases after being fully formed they may take on renewed action, enlarge, and become fused together.

I was much surprised at the cicatrices following the tumors which underwent degeneration. The extent and depth of the process led me to think that much loss of tissue would result, such as we find in late gummata. But, on the contrary, the resulting cicatrices were comparatively slight and it was evident that great destruction of the skin had not occurred.

In all cases of precocious gummata, the use of iodide of potassium is indicated, either combined with a mercurial or with the use of inunctions of mercurial ointment.

Such, then, is a quite comprehensive description of an eruption which Mauriac, who is the only author who has previously described it, has called syphilitic erythema nodosum. I am utterly opposed to the names of skin diseases, such as lichen, eczema, psoriasis, lupus, etc., with the adjective syphilitic being used to signify eruptions due to the diathesis, since nothing but confusion and inaccuracy can result from such a nomenclature. There is every reason against and none in favor of calling this eruption by Mauriac's title. It is a precocious gumma presenting certain resemblances in its mode of invasion, course, and appearances to the erythema nodosum. The clinical history of the simple eruption is different from that of the specific. In the latter there is the history of recent infection, and usually a coexistence of declining or active syphilitic manifestation. The febrile symptoms of the early gummata are usually not as pronounced as those accompanying the simple eruption, nor is its invasion quite as sudden and rapid as in erythema nodosum, it is more aphlegmasic. In the syphilitic eruption the nervous symptoms are usually much more severe than in the simple form. Should doubt exist in the mind of the observer early in the history of the eruption, as the evolution progresses, and with the history of the case before him, with its more chronic and aphlegmasic course, and its rebelliousness to simple treatment, it will soon be dispelled. The

fact that these tumors break down and take on the appearances and run the course of typical gummata, to my mind, proves beyond doubt their syphilitic origin and nature.

The coincidence of erythema multiforme with syphilis has been observed by Danielssen,[1] Lipp,[2] and Finger,[3] and has been the subject of a recent paper by Bronson,[4] and beyond the fact that in such cases syphilis usually runs a severe course, as I myself have observed, little which is definite or practical has been evolved. The consensus of opinion concerning this coincidence seems to be that these symptoms are the result of angio-neuritic disturbances, and though due to some occult influence of the syphilitic diathesis, are not pathognomonic of the disease. Bronson goes still further in holding that, though they may begin as simple eruptions, they may later on assume a true syphilitic nature.

I am firmly of the opinion, for reasons already given, that the precocious neurotic gummata are purely of syphilitic origin and nature, and not in any sense intercurrent simple eruptions. As in the palate, throat, iris, and periosteum there is often precocious gummatous infiltration, so in the subcutaneous connective tissue of the skin, which is essentially the one upon which the activity of syphilis is spent, may this precocious development take place. In syphilis, as in sarcoma and leprosy, while in general its new growths are slow, aphlegmasic, localized and chronic, in exceptional cases they may be precocious, generalized, and very active.

40 West Twenty-first Street, New York.

[1] Norsk Magaz. f. Laegervidsk, iv. 6. Two notes by Finger.

[2] Archiv für Dermatologie und Syphilis, 1871, vol. iv. page 221.

[3] Ueber den Zusammenhang der multiformen Erytheme mit dem Syphilis-Processe. Prager med. Wochenschrift, 1882, p. 262.

[4] Erythanthema Syphiliticum. Medical Record, September 4, 1886.

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